

SAN DIEGO COUNTY SENIOR FALLS REPORT

HEALTH AND HUMAN
SERVICES AGENCY



COUNTY OF SAN DIEGO
 **HHSA**
HEALTH AND HUMAN SERVICES AGENCY

September 2012

Live Well, San Diego!



San Diego County Senior Falls Report

County of San Diego
Health and Human Services Agency

Public Health Services
Aging & Independence Services

September 2012

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RON ROBERTS

CHAIRMAN
SUPERVISOR, FOURTH DISTRICT
SAN DIEGO COUNTY BOARD OF SUPERVISORS

September 25, 2012

Dear San Diego County Residents:

I am pleased to present the ***San Diego County Senior Fall Report***. Falls are the leading cause of death due to injury for San Diegans aged 65 and older. More older San Diegans visit local emergency departments because of injuries due to falls than for injuries due to all other causes combined. Health officials remind us that most falls are preventable. Simple steps can be taken to make the home safe, to improve personal strength and balance, and to diagnose treatable medical conditions.

On July 13, 2010, the Board of Supervisors embarked on a 10-year strategy -- ***Live Well, San Diego!*** -- to guide County services in support of Building Better Health. It is our intent that this effort will help to fulfill our vision of a San Diego County that is healthy, safe and thriving. Preventing falls is an important part of that vision. I hope that this report will serve as a call to action for individuals, families, providers, and public and private organizations in communities across our region, to increase awareness about falls and to put in place programs to prevent them.

Sincerely,

RON ROBERTS

Chairman

San Diego County Board of Supervisors



County of San Diego

HEALTH AND HUMAN SERVICES AGENCY

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NICK MACCHIONE, FACHE
DIRECTOR

DEAN ARABATZIS
CHIEF OPERATIONS OFFICER

September 24, 2012

Dear San Diegans,

We are pleased to present the *San Diego County Senior Falls Report*.

Unintentional fall-related injuries are a common concern for all age groups. However, falls are of particular concern for San Diego seniors. Seniors comprise the largest population sustaining injuries due to falls. For this population, not only are falls the number one reason for emergency room visits or hospitalization due to injury, falls are also the leading cause of death due to injury.

The good news is that there are steps that can be taken to prevent falls. Interventions that have been shown to reduce the risk of falling include a medical evaluation (including a medication review and vision, strength and balance assessments), a home safety evaluation, and physical fitness programs that include strength and balance components. To prevent falls in San Diego, services and programs must address the needs of individuals of all ages who are from diverse racial, ethnic, cultural, and linguistic backgrounds. A comprehensive list of community resources for fall prevention may be found at www.SanDiegoFallPrevention.org.

This report supports the County's *Live Well, San Diego!* 10-year regional wellness plan, which aims to achieve the vision of a San Diego County where individuals across the lifespan -- children, adults, and seniors -- thrive in communities that are healthy and safe. Safety, in all environments, is a key factor for seniors and intricately linked to one's ability to thrive with good health. We hope that this *San Diego County Senior Falls Report* will be closely read by all those who are interested in improving health and well being for seniors in our community.

Sincerely,

NICK MACCHIONE, MS, MPH, FACHE
Director

PAM SMITH
Director
Aging & Independence Services

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Acknowledgments

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We are particularly grateful for the guidance and support of:

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An effort of this magnitude requires visionary leadership. We are fortunate to have Nick Macchione as the Director of the Health and Human Services Agency, Pamela B. Smith as the Director of Aging & Independence Services, and Wilma J. Wooten as the Public Health Officer.

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Live Well, San Diego! Healthy, Safe and Thriving Communities



Live Well, San Diego! is an initiative that embodies a countywide effort to achieve the County vision for healthy, safe and thriving communities. This is a 10-year plan to advance the health and overall well-being of the entire region. *Live Well, San Diego!* is being built with community involvement in a phased approach. The first phase – Building Better Health – was adopted by the Board of Supervisors on July 13, 2010, and implementation is ongoing and continuous. The second phase is in the design stages, and the third phase will be initiated following its adoption.

The three phases that encompass the pillars of *Live Well, San Diego!*:

- ***Building Better Health*** – focuses on improving the health of residents and supporting healthy choices.
- ***Living Safely*** – focuses on the Agency's role in ensuring families are connected to services and vulnerable residents are protected from further harm.
- ***Promoting Thriving Families*** – focuses on the Agency's role in helping families become stable and independent.

Key Strategies for *Live Well, San Diego!*

Each pillar has four strategies upon which our goals and objectives will be built. These strategies are:

- ***Building a Better Service Delivery System*** – maximizing quality and eliminating waste in our services.
- ***Supporting Positive Choices*** – providing information and tools so that residents can take charge of their well-being.
- ***Pursuing Policy and Environmental Changes*** – making it easier for people to engage in and adopt positive behaviors.
- ***Improving the Culture from Within*** – recognizing the importance of the workforce in making and promoting positive choices.

The entire initiative is built on a foundation of operational excellence. The County serves the entire San Diego population, with a focus on at-risk and high-need populations. These are defined as:

General Population: The 3.1 million San Diego County residents who may benefit from a more coordinated and comprehensive prevention approach.

At-Risk Population: Those we will engage with early, proven interventions to stop problems from developing or escalating.

High-Need Population: Those already in the County system who will benefit from assistance to stabilize and achieve self-reliance.



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Program Descriptions

AGING & INDEPENDENCE SERVICES

Aging & Independence Services (AIS) provides services to older adults, people with disabilities and their family members. These services help keep clients safely in their homes, promote healthy and vital living, and publicize positive contributions made by older adults and persons with disabilities.

AIS is the only single public or private organization in San Diego County that combines a number of services for older adults and disabled persons under one umbrella. AIS is a division of the Health and Human Services Agency (HHSA).

PUBLIC HEALTH SERVICES

Public Health Services (PHS) is dedicated to community wellness and health protection in San Diego County. PHS works to prevent injuries, epidemics and the spread of disease and protects against environmental hazards. PHS promotes and encourages healthy behaviors, responds to disasters and assists communities in recovery, and assures the quality and accessibility of health services throughout the county. PHS is a division of HHSA.

EMERGENCY MEDICAL SERVICES

Emergency Medical Services (EMS) is a branch within the HHSA Division of PHS. It is the “local EMS agency” as defined in California law. Its purpose is to ensure that emergency medical services, which includes 9-1-1 ambulance service, trauma care service, and non-emergency ambulance service, are timely and of the highest quality. EMS provides services in two ambulance districts and is also involved in disaster preparedness, community education, and injury prevention.

Purpose of the Senior Falls Report

This report describes the devastating impacts of falls in San Diego County for residents aged 65 years and older.

Information is presented here on older San Diegans who die, are admitted to local hospitals and trauma centers, are transported in ambulances, and are treated in and discharged from emergency departments due to falls. Data presented cover years 2007 through 2010.

The known facts about those who fall in San Diego are described and then applied to the projected county population. The risk factors for falls, as well as prevention strategies, are discussed in this report.

**San Diego hospitals
emergently treat or
admit two older adults
for falls every hour.¹**

**An older San Diegan
dies from a fall
every 30 hours.¹**

There is an urgent need for fall prevention in San Diego. The information within this report can be used to:

- Identify those who are at risk for falls.
- Recognize the serious impacts falls can have on health and personal independence.
- Understand the role of the health care system in fall treatment and prevention.
- Strengthen community efforts to reduce individual fall risk.
- Find resources to decrease the risk of a fall for yourself or for someone you know.



Scope of the Problem



According to the Centers for Disease Control and Prevention (CDC), one out of three adults aged 65 years and older fall every year in the United States. Further, among this age group, falls are the leading cause of injury death, as well as the most common cause of nonfatal injuries and trauma hospitalizations.²

Among those who fall, 20% to 30% will incur moderate to severe injuries. This includes bruises, sprains and strains, lacerations, fractures, and head trauma. These types of injuries can reduce independent living and increase the risk of early death.²

Even when not injured by a fall, individuals often develop an increased fear of falling again. This fear can limit physical activity which reduces mobility and physical fitness, in turn increasing their risk of falling.³

In 2010, 351,425 San Diego County residents were aged 65 years or older. When the rates of falls found by CDC are applied to the San Diego County population aged 65 years or older, it can be projected that:

- 117,142 older residents will fall within the next year.
- Between 23,000 and 36,000 residents will suffer from injuries that make it difficult for them to live independently.

The following table shows that falls were the leading cause of injury for all emergency department discharges among older San Diego County residents in 2010.

Table 1: Emergency Department Discharges Due to Injury in San Diego County, 2010

Age Group of Victim	Injuries from Falls	Injuries from all other causes*
55-64	4,797	7,128
65-74	3,633	3,452
75-84	5,053	2,464
85+	5,077	1,421

Source: CDPH, EPICenter, 2010.

* Includes motor vehicle crashes, stuck by/against injuries, cut/pierce injuries, overexertion, drowning, pedestrian injuries, and other types of unintentional injury.

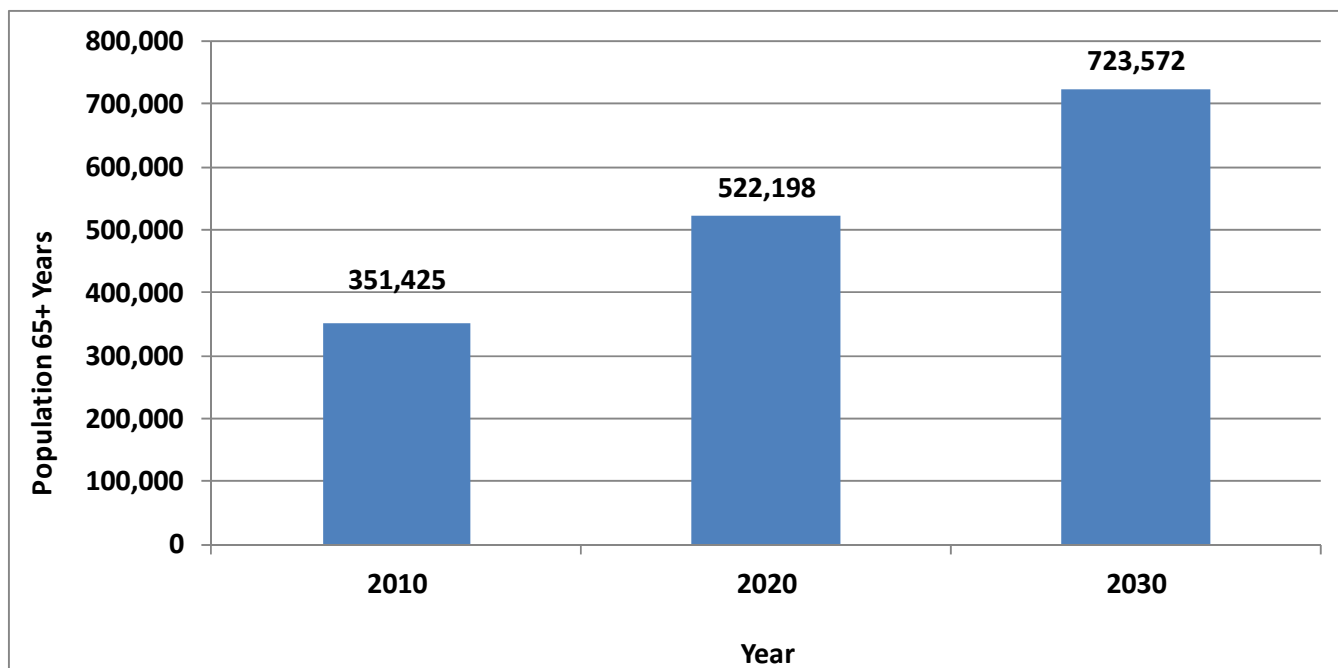
Population Projections

The population of San Diego County is growing larger and getting older. The baby boomer generation is entering the 65 years and over age category and people are living longer. This is creating a larger population of 85 years and over residents.

In 2010, there were 351,425 residents 65 years and older in San Diego County. This population is projected to more than double to 723,572 in 2030. An estimated 84,000 San Diegans will be 85 years and older in 2030. More than 60% of this population will be women.



Figure 1: Population Projections for San Diego County, Age 65 Years and Over, 2010-2030



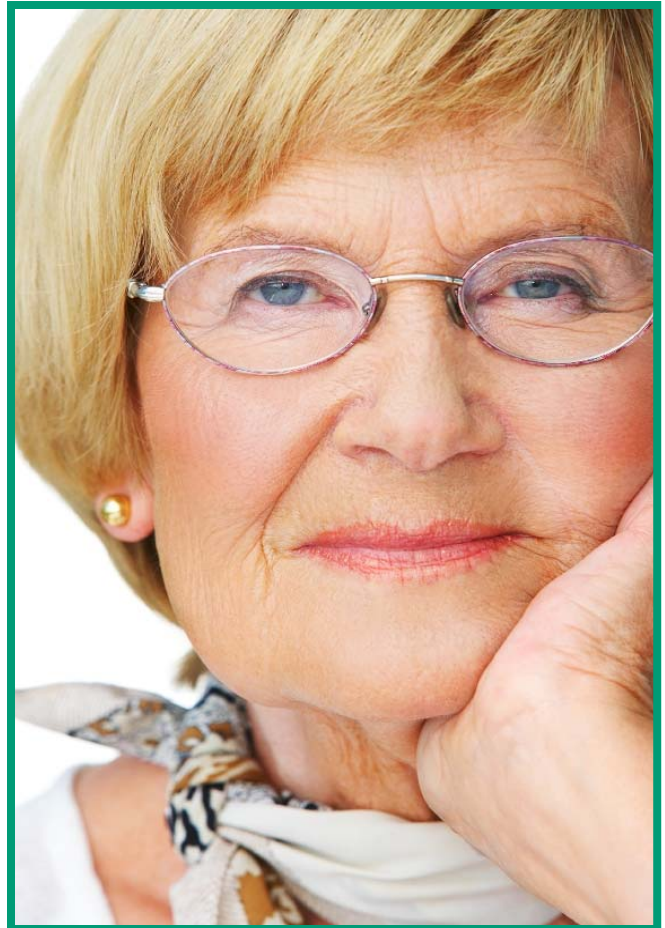
Source: SANDAG Estimates, Accessed 8/2012.

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Using the current estimates of falls from the CDC, by 2030 there will be approximately 241,000 falls each year among the 65 years and over population.

There is a wide range of consequences when a senior falls. Some falls result in no or minor injury. These falls will receive no treatment, self-treatment, or perhaps treatment from a primary or urgent care provider. There is no current surveillance system that captures data on office visits or self care, so data on these falls is not included in this report.

Some who fall contact 9-1-1. These incidents are tracked and reported. The most common reason for a prehospital call from someone 85 years old or over was an injury from a fall.



Falls can also result in admission to the emergency department, hospital, and trauma center, or result in death. As the population of senior citizens grows, the number of falls will also grow. This will increasingly impact the medical care system.

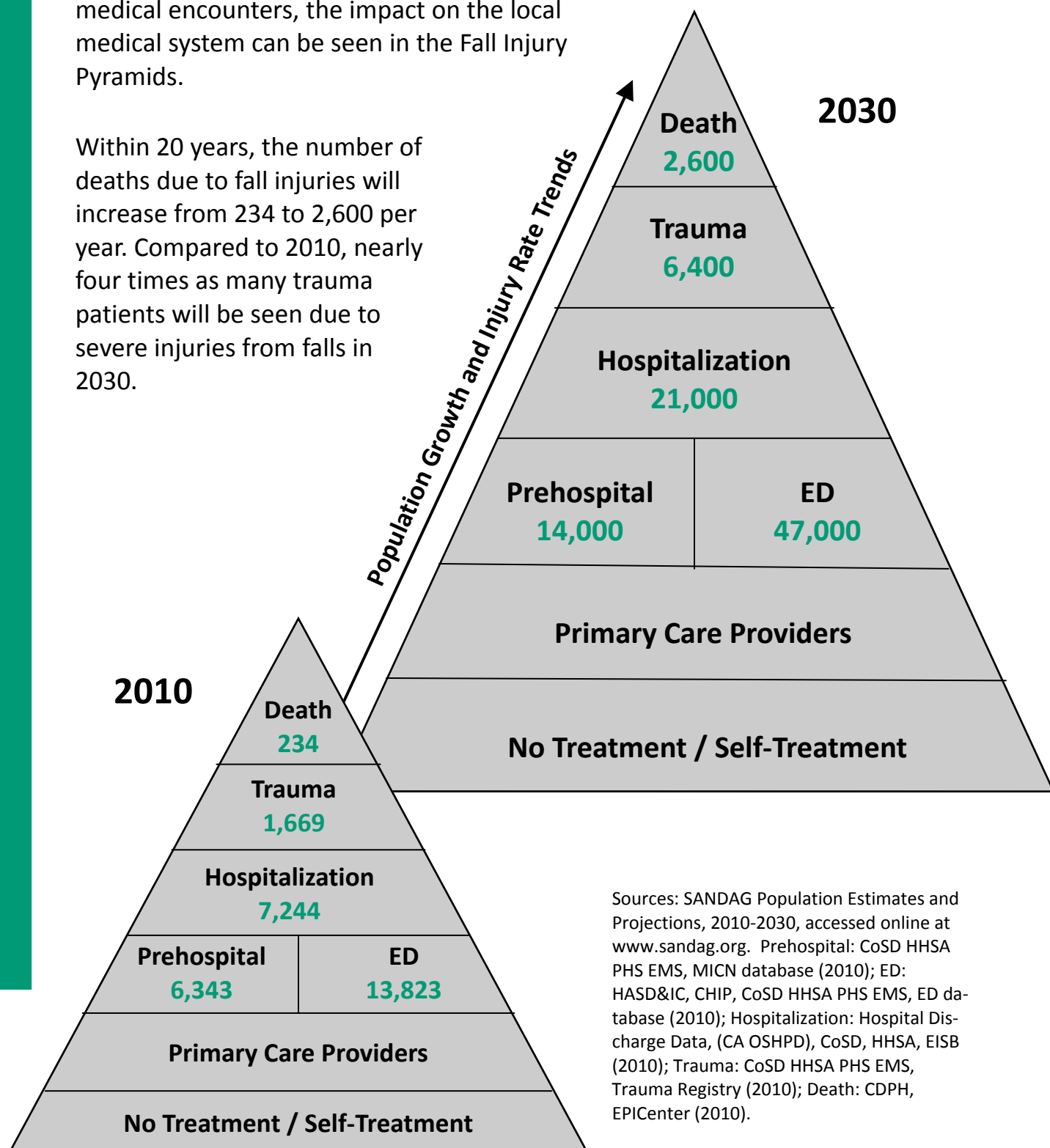


**Without prevention,
7 older San Diegans are
expected to die from
falls every day in 2030.**

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Using the expected growth rate for the San Diego County population, aged 65 years and over, and the expected rate of increase in medical encounters, the impact on the local medical system can be seen in the Fall Injury Pyramids.

Within 20 years, the number of deaths due to fall injuries will increase from 234 to 2,600 per year. Compared to 2010, nearly four times as many trauma patients will be seen due to severe injuries from falls in 2030.



Sources: SANDAG Population Estimates and Projections, 2010-2030, accessed online at www.sandag.org. Prehospital: CoSD HHSA PHS EMS, MICN database (2010); ED: HASD&IC, CHIP, CoSD HHSA PHS EMS, ED database (2010); Hospitalization: Hospital Discharge Data, (CA OSHPD), CoSD, HHSA, EISB (2010); Trauma: CoSD HHSA PHS EMS, Trauma Registry (2010); Death: CDPH, EPICenter (2010).

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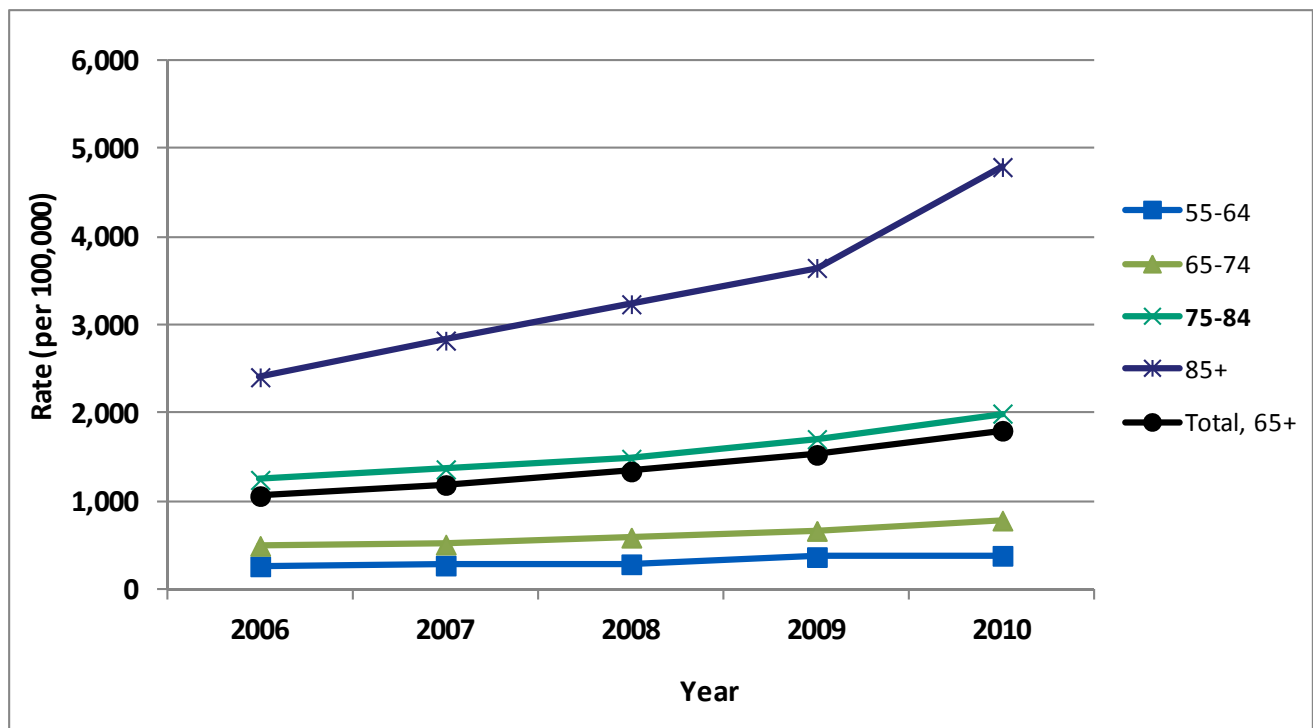
General Trends

PREHOSPITAL SYSTEM

- During fiscal year 2010/2011, 49% of the calls made to 9-1-1 in San Diego County, were made by people ages 55 years and over.
- Among residents ages 65 and over who accessed 9-1-1, 58% of them were female.
- Of all the falls reported in the prehospital system, 54% occurred to residents ages 65 and over.



Figure 2: Rate of Prehospital Calls with a Fall-related Injury, by Age Group and Year, San Diego County, 2006-2010



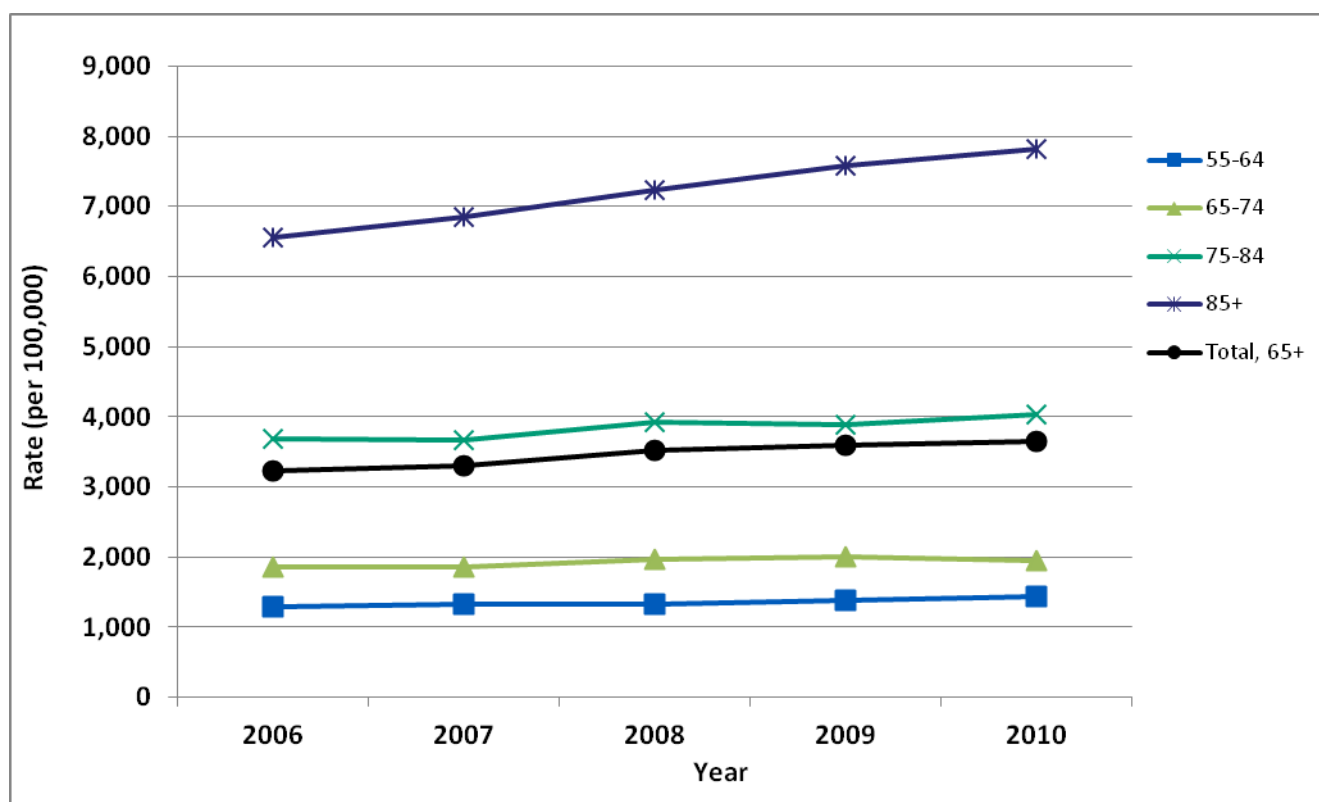
Source: CoSD, HHSA, PHS, EMS, MICN database (2010), SANDAG 2006-2010 Population Estimates, Accessed 8/2012.

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EMERGENCY DEPARTMENT (ED) DISCHARGE

- In San Diego County, the 65 years and over population accounted for 14% of all ED visits in 2010.
- In 2010, one-quarter of all fall-related injuries seen in the ED were among patients aged 65 years and over.
- The number of fall-related injuries, among patients aged 65 years and over, seen in San Diego County EDs increased by 25% from 2006 to 2010.
- Among the 85 and over population, the number of fall-related injuries seen in the ED increased by 50% from 2006 to 2010.

Figure 3: Rate of Emergency Department Discharge with a Fall-related Injury, by Age Group and Year, San Diego County, 2006-2010



Source: Emergency Department Discharge Data, (CA OSHPD), CoSD, HHSA, PHS, EISB/EMS, ED Database, 2006-2010. SANDAG Population Estimates, Accessed 8/2012.

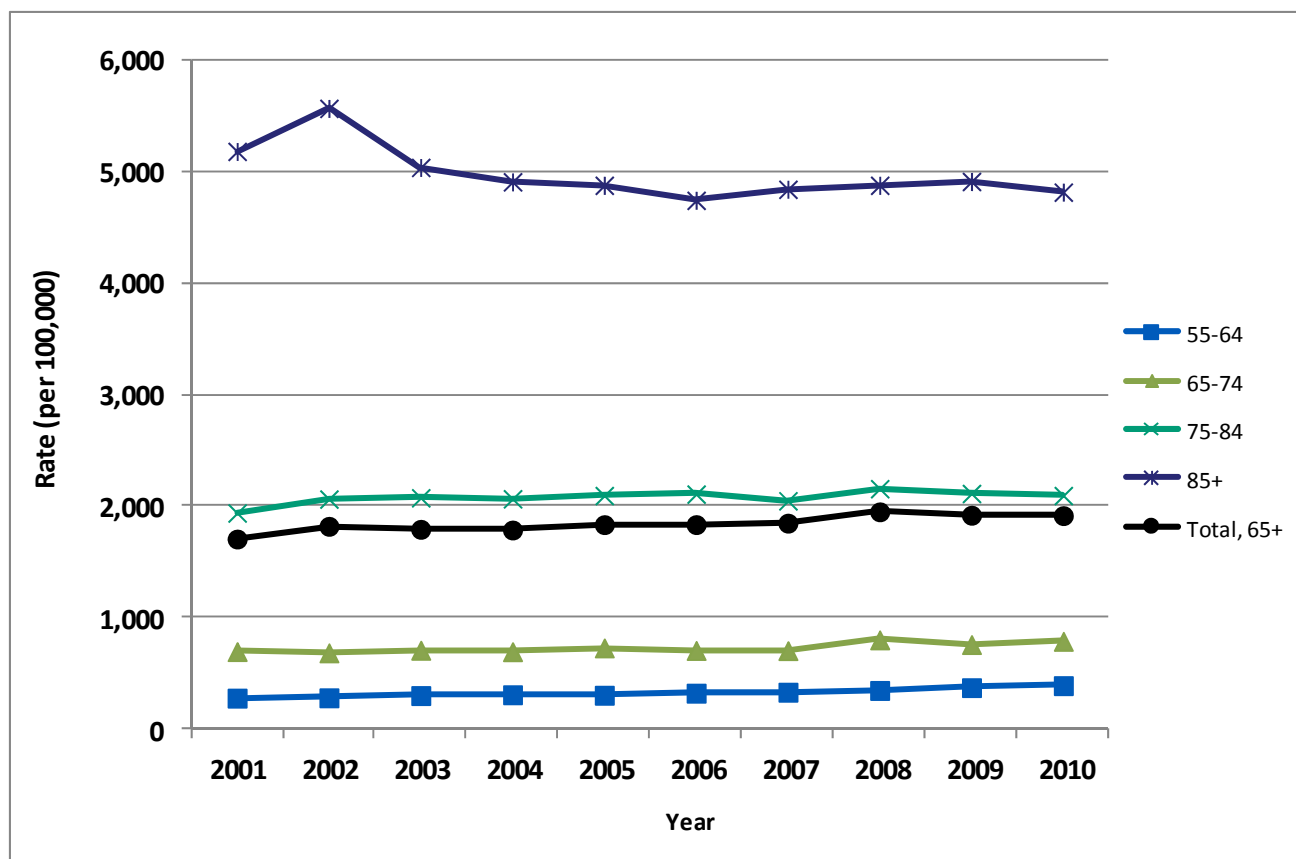
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HOSPITALIZATION DISCHARGE

- The numbers of hospitalizations among residents, age 65 years and over, with a fall injury increased 34% from 2001 to 2010.
- The rate of hospitalization due to a fall-related injury, among those aged 65 years and over in San Diego County, increased 33% from 2001 to 2010.



Figure 4: Rate of Hospitalization Discharges with a Fall-related Injury, by Age Group and Year, San Diego County, 2001-2010



Source: Patient Discharge Data, (CA OSHPD), CoSD, HHSA, EISB 2001-2010, SANDAG Population Estimates, Accessed 8/2012.

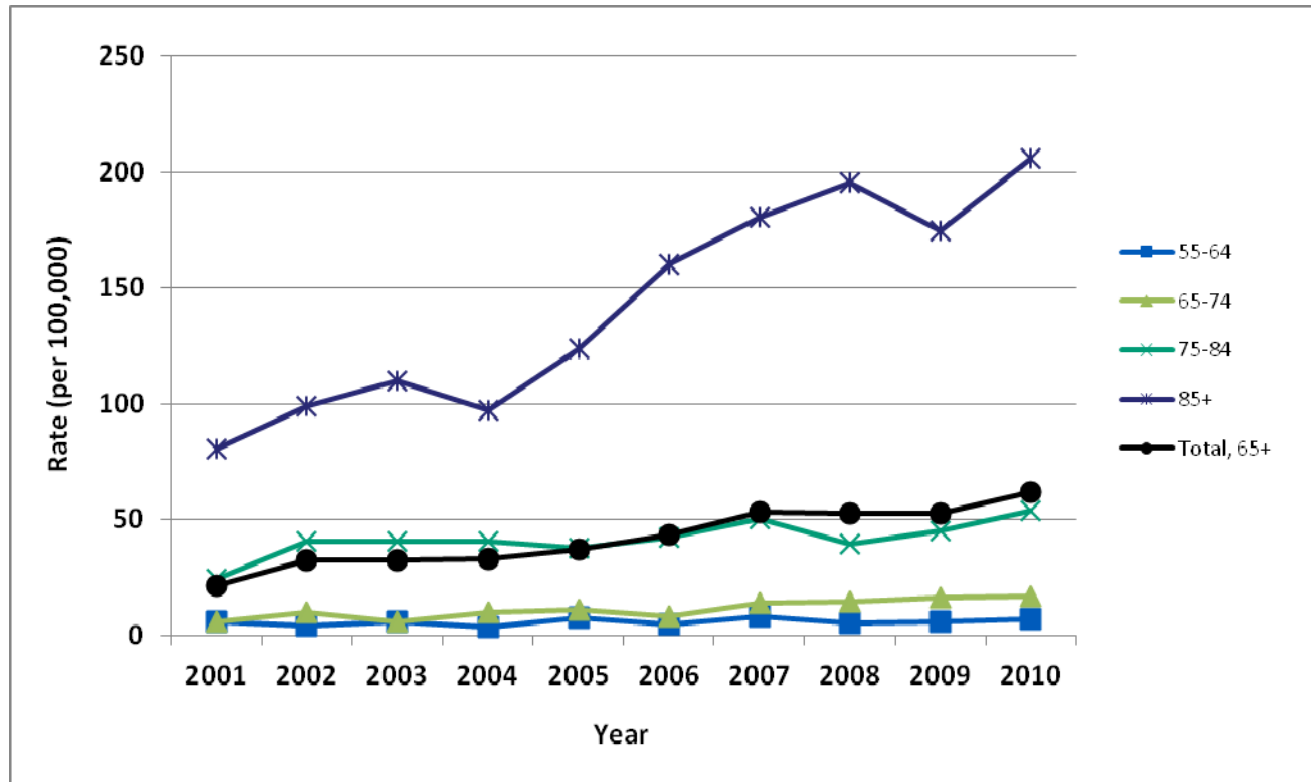
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DEATH

- In 2010, falls were the cause of 68% of all deaths due to injuries in San Diego County among those aged 65 years and over.
- The rate of fall-related deaths among San Diego residents, age 85 years and over, increased 155% from 2001 to 2010.
- The number of fall-related deaths among San Diego residents, aged 65 years and over, increased 239% from 2001 to 2010.
- Over half of the fall-related deaths that occurred in 2010 in San Diego County, age 65 years and over were among the 85 years and over age group.



Figure 5: Rate of Death with a Fall-related Injury, by Age Group and Year, San Diego County, 2001-2010



Source: California Department of Health Services, EPICenter Data Injury Data, 2001-2010; Accessed 8/2012, SANDAG Population Estimates, Accessed 8/2012.

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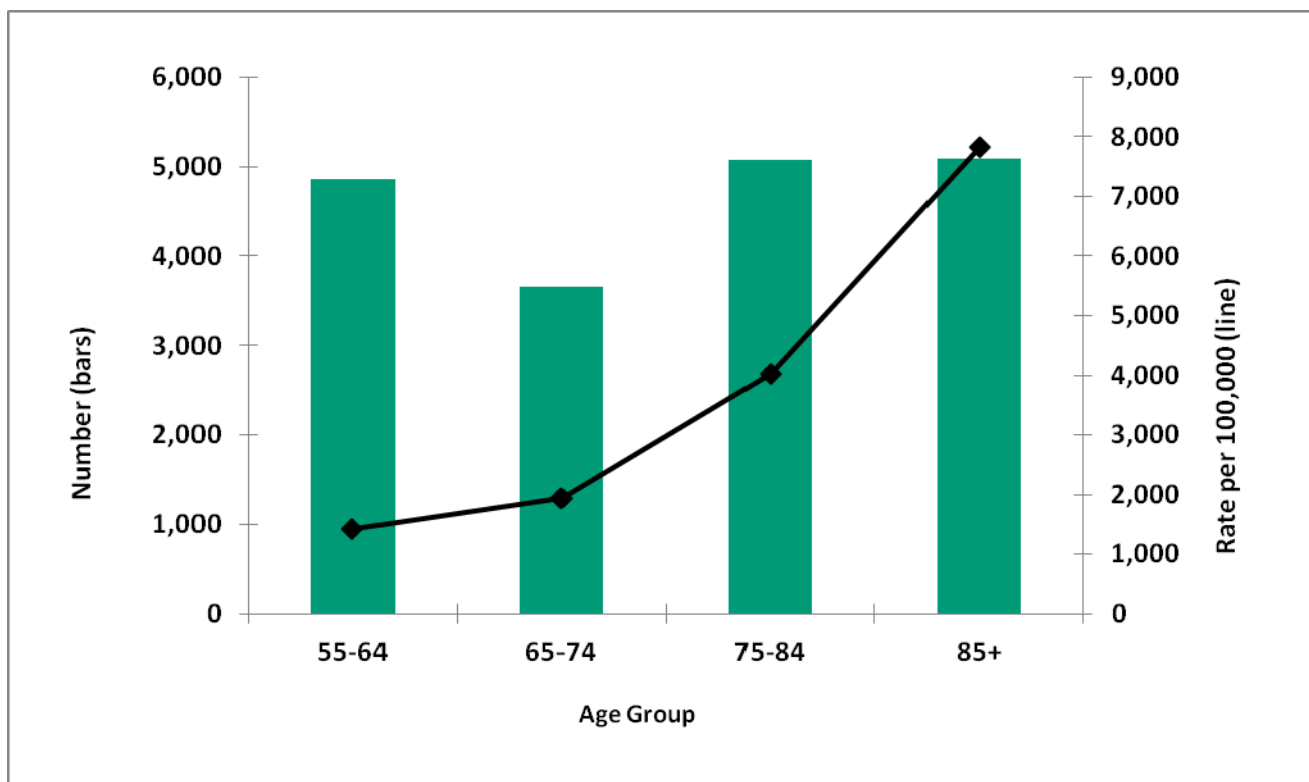
Age

In San Diego County, the risk of a fall increases with older age:

- In 2010, seniors aged 85 years and over accessed the prehospital system most frequently.
- Residents 85 years of age and older were treated and released from the emergency department and hospitalized with a fall injury at a higher rate than any other age group.



Figure 6: Number and Rate of Emergency Department Discharges with a Fall-related Injury, by Age Group, San Diego County, 2010



Source: Emergency Department Discharge Data, (CA OSHPD), CoSD, HHSA, PHS, EISB/EMS, ED Database, 2010.
SANDAG Population Estimates, Accessed 8/2012.

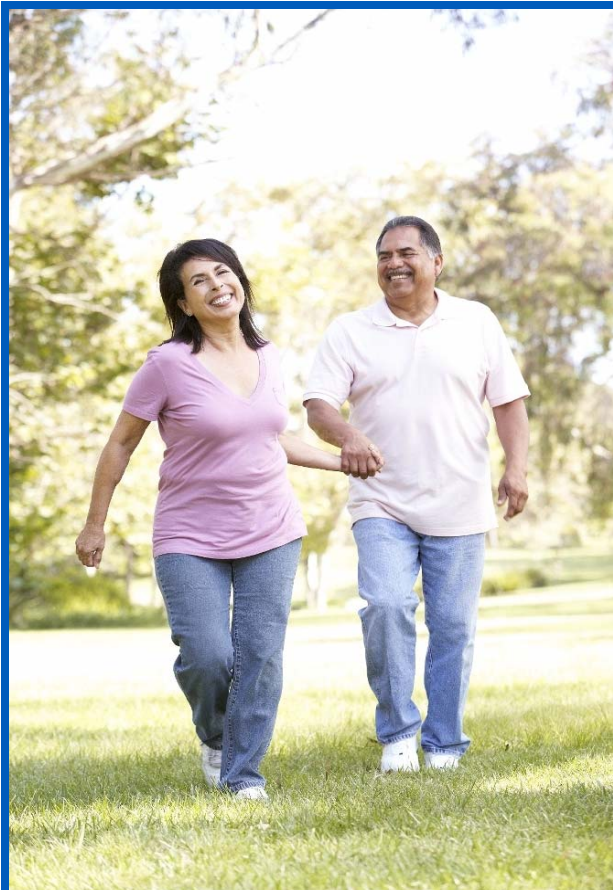
Gender

Generally, women are injured by a fall more often than men, but men die from a fall more frequently than women.

- More than half of callers to the 9-1-1 system with a fall, aged 65 years and over, were female.

When comparing fall rates by gender, there is a noticeable difference between sectors of the medical system.

- Emergency department and hospital discharges had higher rates of falls for women than for men.



The injuries seen in the emergency department and hospital are typically less severe than those injuries seen in trauma centers or by the Medical Examiner.

- Men had higher rates of trauma center admittance due to fall-related injuries.
- In 2010, the rate of hospitalization with a fall among those aged 65 years and over was nearly 1.4 times greater for females than males.
- The death rate for males, aged 65 years and over, with a fall injury reported was higher than that for females.
- In 2010, over two-thirds of emergency department discharges, of those 65 years of age and older with a fall-related injury, were women.

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Race/Ethnicity

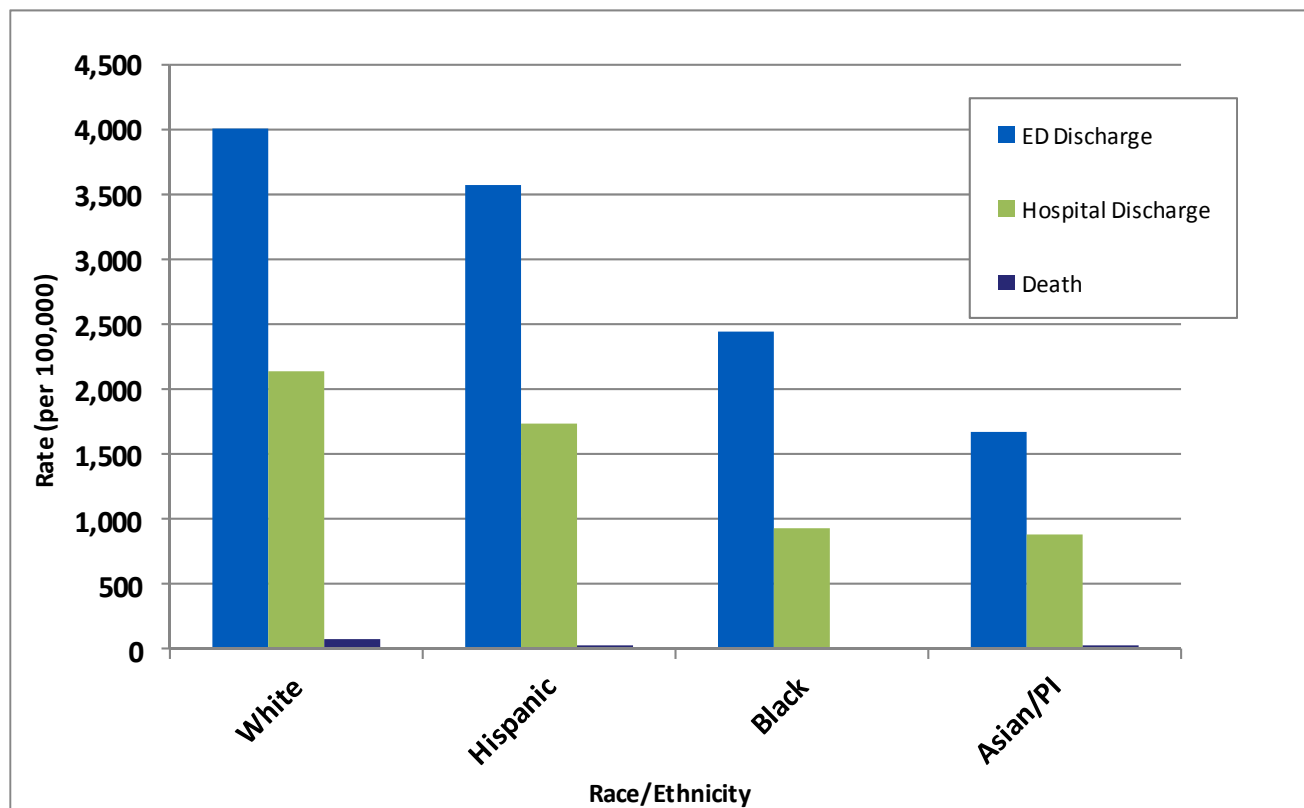
In 2010, more than 75% of seniors discharged from the emergency department with a fall-related injury were white. Another 13.6% were Hispanic, 4.8% were Asian/Pacific Islander, 2.2% were black, and 2.6% were of other/unknown race/ethnicity..

This breakdown by race/ethnicity is similar across all levels of medical encounter within San Diego County.

- Whites have the highest rates of fall-related injuries across all types of medical encounter, followed by Hispanics.



Figure 7: Rate of Fall Injuries by Race/Ethnicity and Level of Medical Encounter, Aged 65 Years and Over, San Diego County, 2010



Source: Emergency Department Discharge Data, (CA OSHPD), CoSD, HHSA, PHS, EISB/EMS, ED Database, 2010. Patient Discharge Data, (CA OSHPD), CoSD, HHSA, EISB 2010, CDPH EpiCenter 2010, SANDAG Population Estimates, Accessed 8/2012.

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Health and Human Services Regions

- In 2010, the South Region of San Diego County had the highest rate of emergency department discharges with a fall-related injury, aged 65 years and over, followed by the North Coastal Region.
- The North Coastal Region had the highest percentage of fall-related injury emergency department discharges in 2010.

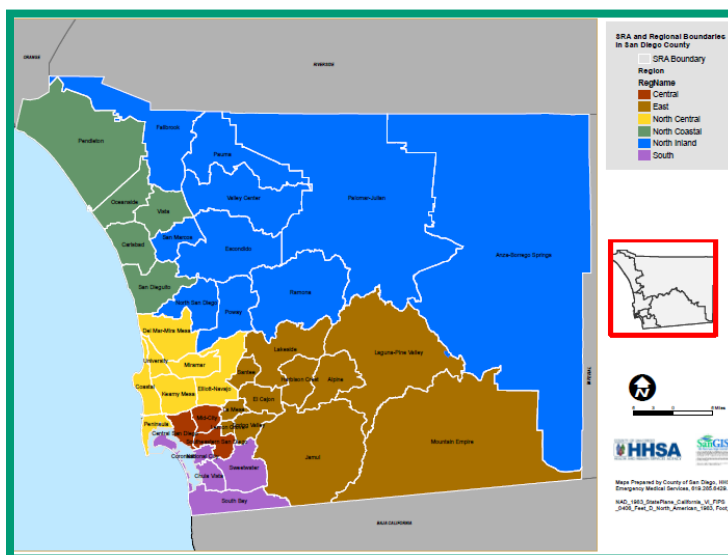
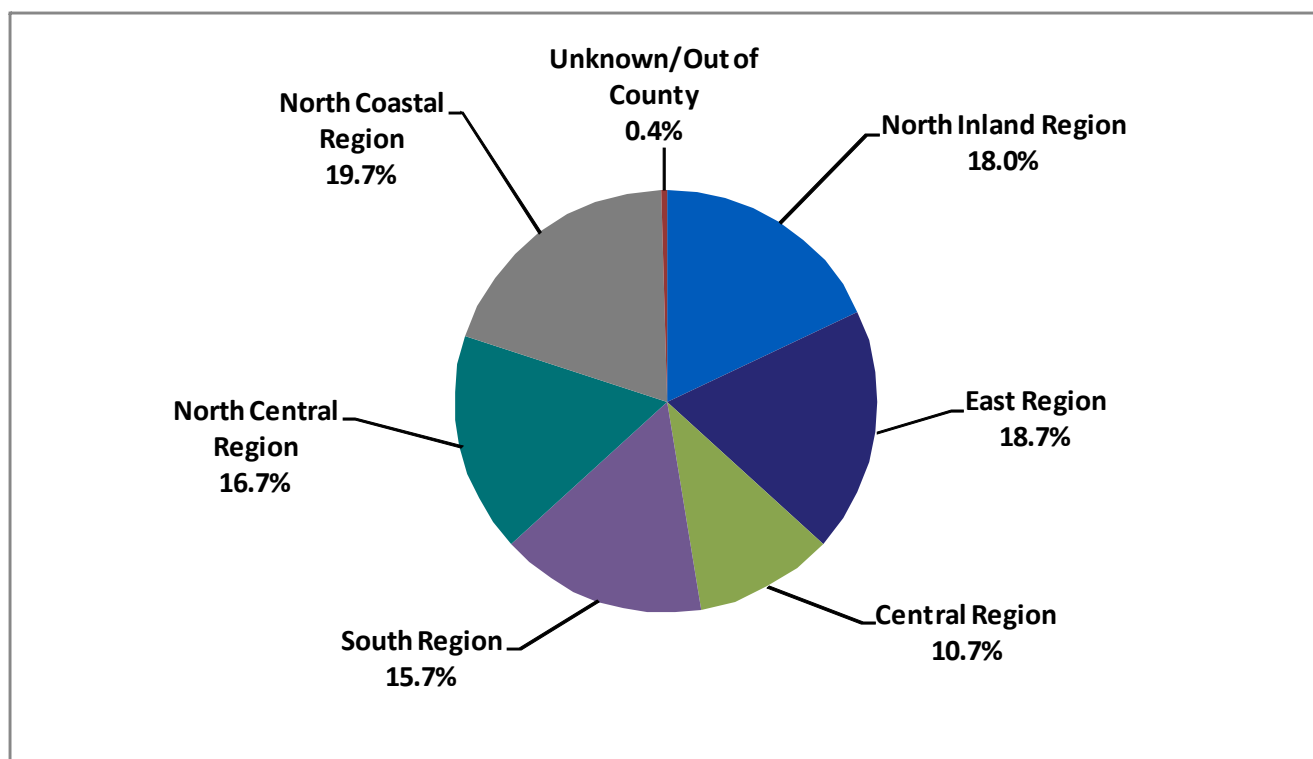


Figure 8: Percent of ED Discharge with a Fall-related Injury, by HHSA Region, Aged 65 Years and Over, San Diego County, 2010



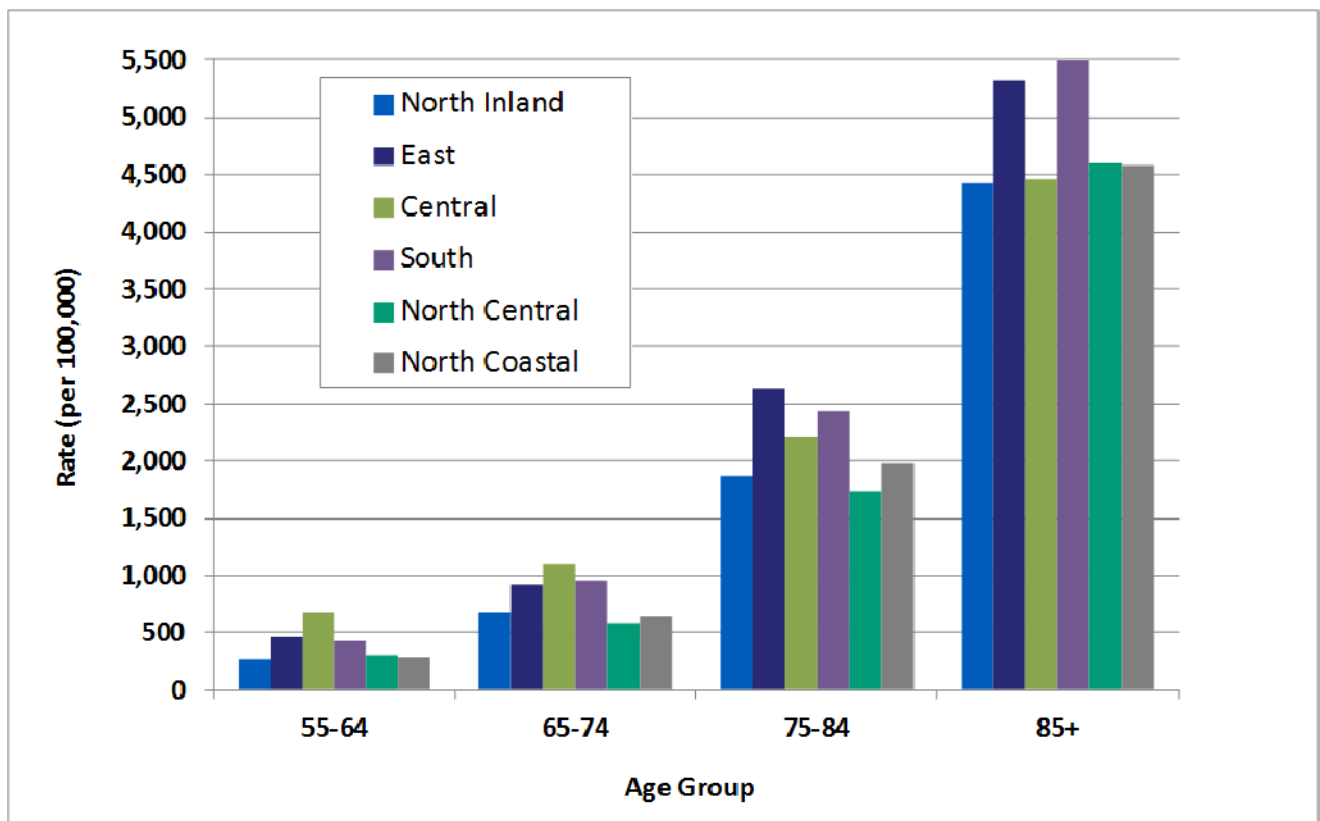
Source: Emergency Department Discharge Data, (CA OSHPD), CoSD, HHSA, PHS, EISB/EMS, ED Database, 2010.

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- In 2010, the highest rate of hospitalization with a fall injury, among the 85 years of age and over population, occurred in the South Region, followed by the East Region.



Figure 9: Rate of Hospitalizations with a Fall Injury, by Age Group and HHSA Region, San Diego County, 2010



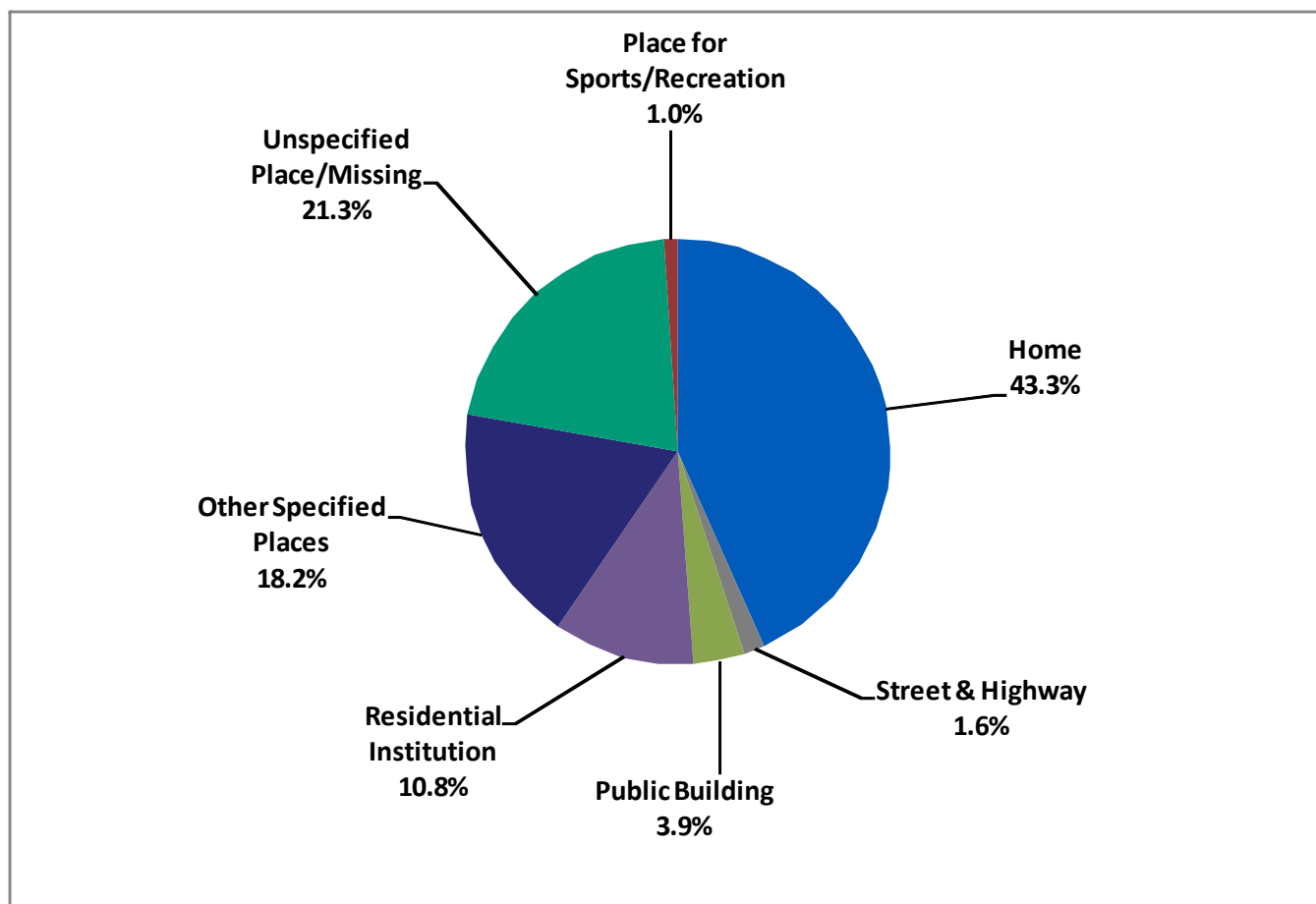
Source: Patient Discharge Data, (CA OSHPD), CoSD, HHSA, EISB 2010, SANDAG Population Estimates, Accessed 8/2012.

Location of Falls

In 2010, among emergency department discharges age 65 years and over, there were over 5,900 fall-related injuries that were reported to have happened at home. This was nearly a 25% increase from the number of fall-related injuries reported to have occurred at home in 2008.

There are many factors in the home environment that can lead to a fall, such as loose rugs and poor lighting. Modifications in the home can be done easily and can help reduce the risk of falling.

Figure 10: Percent of ED Discharges with a Fall-related Injury, by Location of Fall, Aged 65 Years and Over, San Diego County, 2010 (N=13,823)



Source: Emergency Department Discharge Data, (CA OSHPD), CoSD, HHSA, PHS, EISB/EMS, ED Database, 2010.

Mechanism of Injury

The mechanism of a fall provides insight to how the fall occurred and how it might be prevented. Some of the mechanism categories include:

- Fall on or from stairs or steps.
- Fall on or from ladders or scaffolding.
- Fall from one level to another.
- Fall on the same level from slipping, tripping, or stumbling.

Each of these categories have more specific types of falls that can be reported, such as fall from wheelchair and fall on or from sidewalk curb.

In 2010, among emergency department discharges with a fall-related injury, aged 65 years and over, 44.3% were a fall on the same level due to slipping, tripping, or stumbling.



In 2010, among hospitalization discharges with a fall-related injury, age 65 years and over, 43.6% were a fall on the same level due to slipping, tripping, or stumbling.



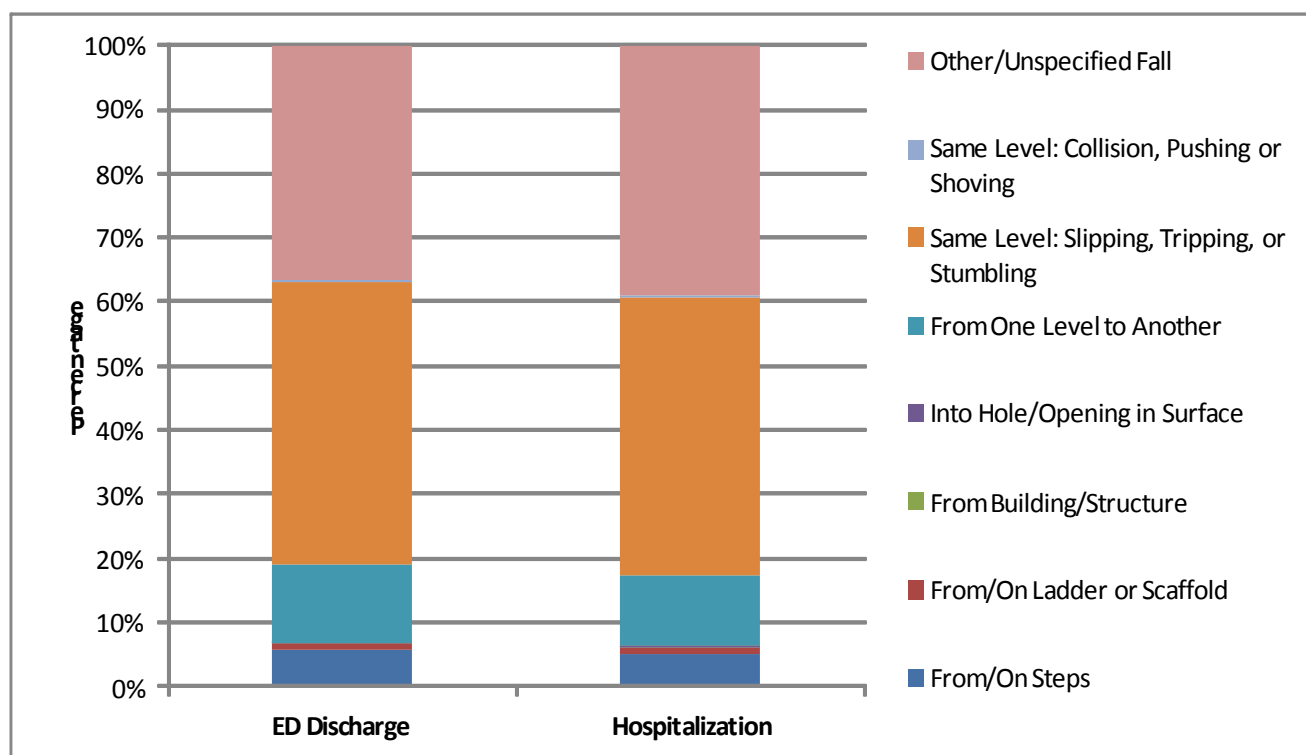
**Slips, trips, or stumbles
on the same level
are the most common
causes of falls leading to
injury or death.¹**

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Slipping, tripping, or stumbling from the same level was the leading mechanism for fall-related injury emergency department discharge and hospitalization.¹



Figure 11: Mechanism of Injury by Level of Medical Encounter, Aged 65 Years and Over, San Diego County, 2010



Source: California Department of Health Services, EPICenter Data Injury Data, 2001-2010; Accessed 8/2012.

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NATURE OF INJURY

The severity of injury that occurs as a result of a fall can range from bruising to fractures, to traumatic brain injury.

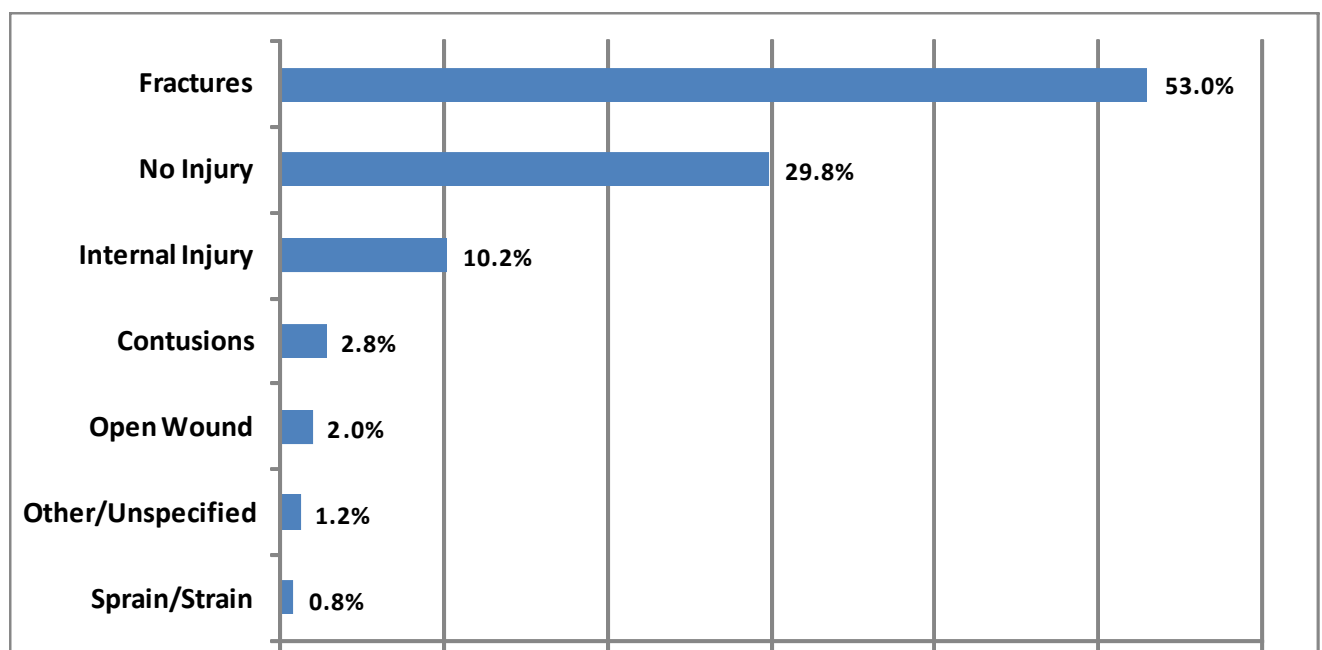
The nature of injury data provides insight into what the primary diagnosis was for patients admitted to the hospital with a fall-related injury.

Fractures were the leading type of injury among seniors hospitalized for fall-related injuries in 2010.¹

In 2010, more than half of the patients admitted to the hospital with a fall-related injury had the primary diagnosis of a fracture.

Nearly 30% of those admitted did not have an injury, but were admitted for another reason, such as a chronic disease which may have contributed to the patient's fall.

Figure 12: Percent of Hospitalization Discharges with a Fall-related Injury, by Nature of Injury, Aged 65 Years and Over, San Diego County, 2010



Source: CDPH, EPICenter Data Injury Data, 2010; Accessed 8/2012.

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HIP FRACTURES

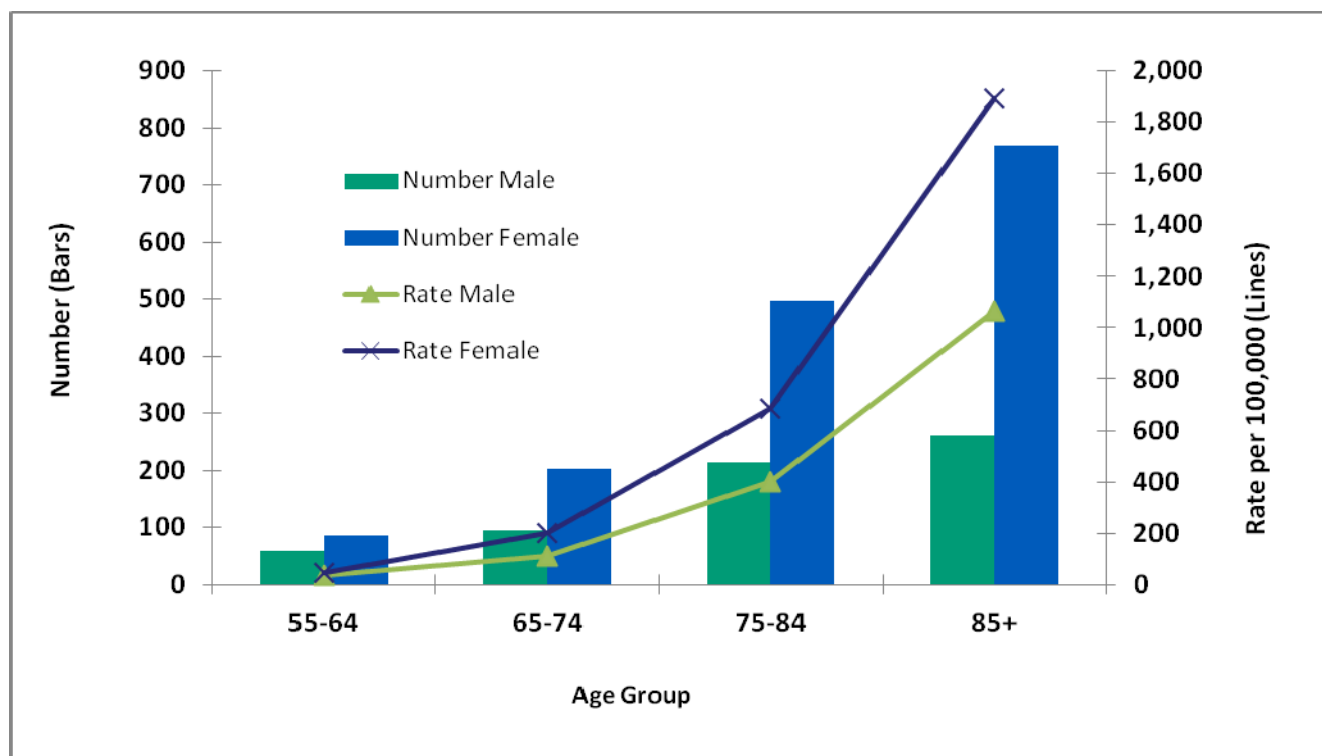
The National Institute on Aging (NIA) reports that most fall-related fractures occur in the hip, pelvis, spine, arm, hand, or ankle. Among older adults, hip fractures are among the most devastating to a person's independence. Only half of the older adults hospitalized for a broken hip can return home or live on their own after the injury.³

The CDC reports that three quarters of all hip fractures occur in women.⁴

Within San Diego County, for every age group evaluated, the rate of hospitalizations with a fall that resulted in a hip fracture was higher for females than males. The rate of hip fractures resulting from falls among females ages 85 years and older was 1,893 per 100,000.

**One in five
hip fracture patients
dies within a year
of injury.⁴**

Figure 13: Number and Rate of Hospitalizations with a Fall Resulting in a Hip Fracture, by Aged Group and Gender, San Diego County, 2010



Source: Patient Discharge Data, (CA OSHPD), CoSD, HHSA, EISB 2010, SANDAG Population Estimates, Accessed 8/2012.

Personal Response to a Fall

The 2007 California Health Interview Survey (CHIS) asked respondents, aged 65 years and over who had fallen more than once in the past year, questions pertaining to treatment and lifestyle changes due to their falls. *The only year that the survey included fall related questions was 2007.*

Among those who answered in San Diego County:

- 55% received medical care because of their falls.⁵
- 45% received professional advice about how to avoid falls.⁵
- 28% had a health care professional review their medication after their falls.⁵
- 25% of the San Diegans surveyed changed their daily routines.⁵
- 32% started physical therapy or exercise.⁵

All older adults should talk about falls with their doctor at least once a year.⁶

All older adults should have their medication reviewed by a health care professional.⁶

Having a health care professional review medication is an important part of identifying a senior's risk of falling, yet less than one-third of those who fell more than once had their medication reviewed.^{5, 6}

Understanding this type of information helps guide the efforts of educators and health care providers to provide proper information to elders at risk of falling.



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PHYSICAL ACTIVITY

Physical activity contributes to all aspects of health. Regular activity such as walking and jogging, as well as strength, balance, and flexibility training, are essential for preventing or controlling health conditions, and maintaining strong bones and muscles. In turn, getting regular activity helps to reduce the risk of falling.³

In 2007, CHIS data showed that only one third of San Diego residents, 65 years and over, engaged in moderate or vigorous physical activity. Regular physical activity is essential for maintaining the strength to perform daily activities, remaining independent, and avoiding falls.^{3, 5}

More specifically, strength training is especially important because it:

- Strengthens bones,
- Improves balance, and
- Provides pain relief from conditions such as arthritis.

Balance and flexibility training, such as yoga or Tai Chi, can help improve stability.⁷

These factors all contribute to feeling confident and sturdy on one's feet, which reduces the chance of falling. If a fall does occur, seniors who engage in regular physical activity are more prepared to catch themselves and have a less severe fall.⁷



ALCOHOL USE

Older adults have an increased sensitivity to alcohol and 90% of older adults use medication which could have adverse effects when combined with alcohol.² Such adverse effects could increase the risk of a fall.

According to the 2005 CHIS data, 53% of San Diego residents, age 65 years and over, had at least one alcoholic drink in the past month. The 2009 CHIS data showed that in San Diego County, 16.3% of males and 7.0% of females, 65 years and over, engaged in binge drinking in the past year, defined as drinking five or more drinks on the same occasion.⁵



Risk Factors

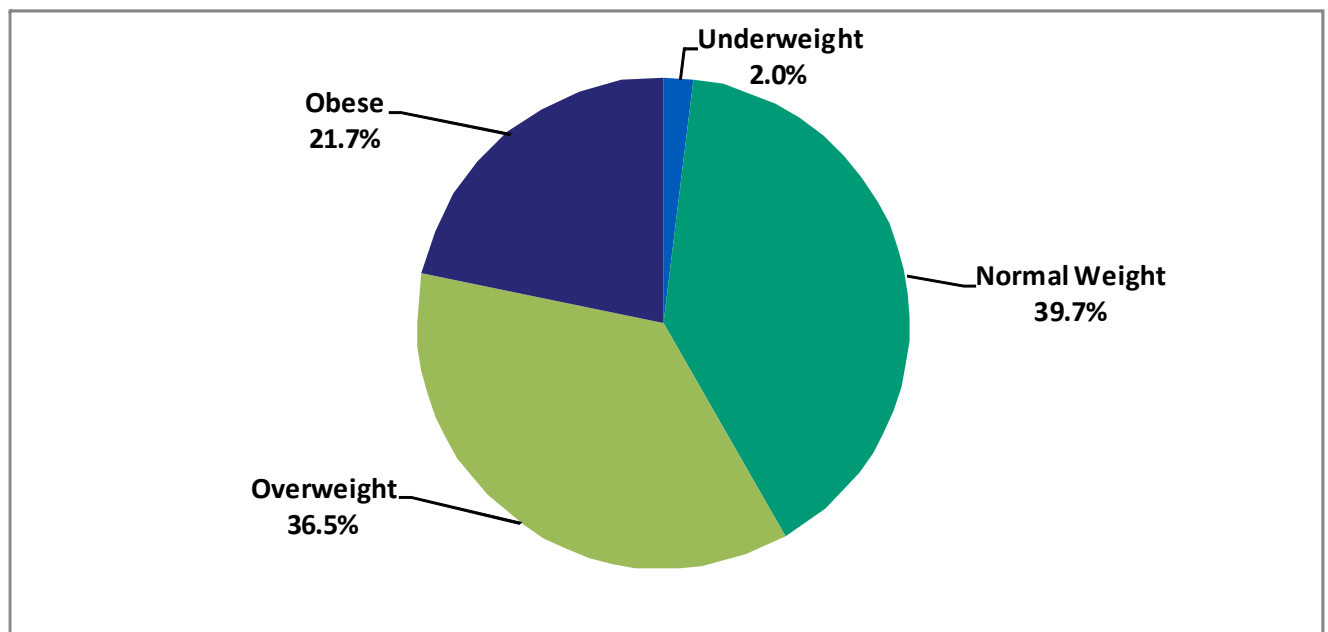
OVERWEIGHT AND OBESE

Overweight and obesity are known risk factors for a number of diseases and chronic conditions. Both can also contribute to the limitation of physical activity and overall health status. In particular, being overweight or obese can worsen conditions such as arthritis, which in turn can limit daily activity and independence. This limitation can add to the increased risk of a fall.²



In San Diego County, the 65 years of age and over population is moving toward a greater prevalence of being overweight and obese. The percentage of the senior population in the normal Body Mass Index category has been declining while the percentage of overweight and obese has been increasing.⁵

Figure 14: Percentage of Population by Body Mass Index Category, Aged 65+, San Diego County, 2009



Source: CHIS 2009, accessed 8/2012.

HOUSEHOLD AND LIVING ALONE

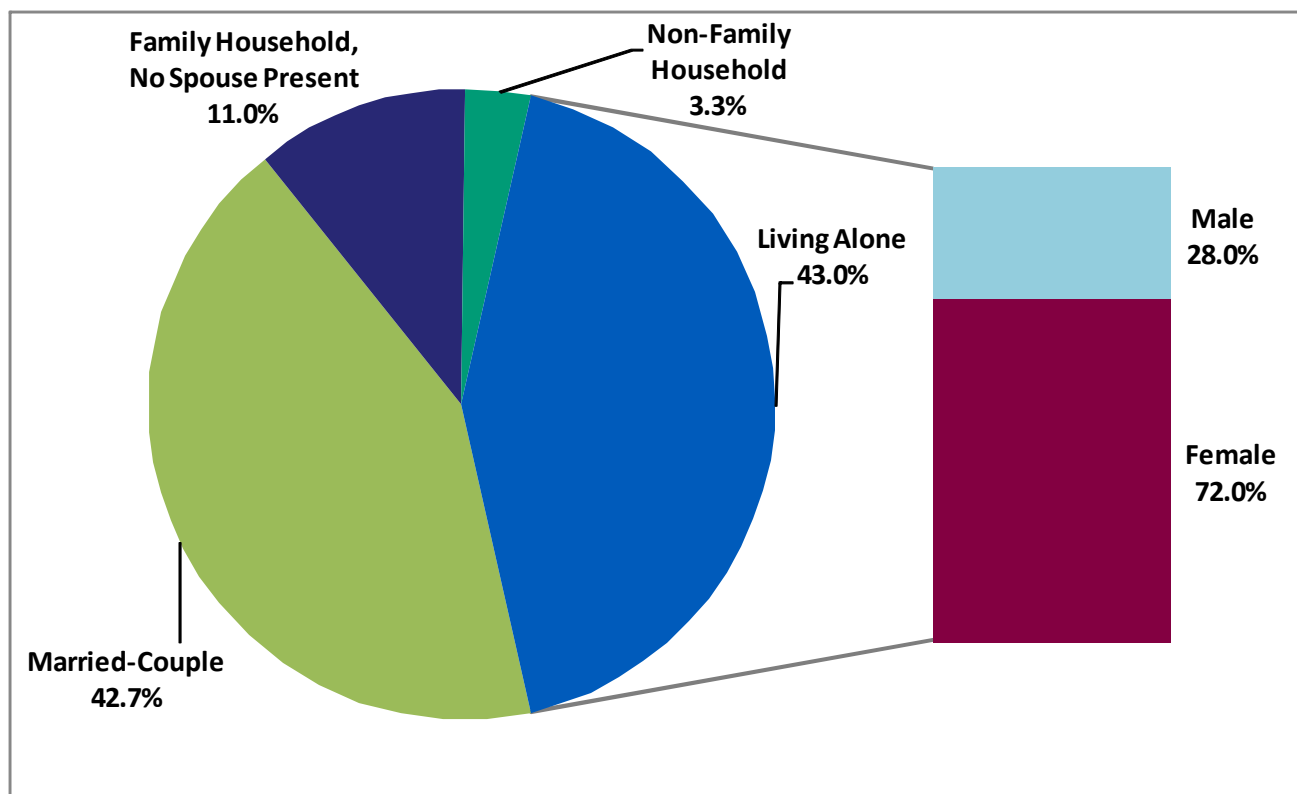
In 2009, it was estimated that 195,944 households in San Diego County have a senior resident within the home.

Approximately 43% are households with a senior living alone, which represents over a quarter of the total senior population of San Diego County.



- Women are more likely to live alone, because they live longer than men.
- Men who live alone are at a greater risk of poor health outcomes than women.

Figure 15: Household by Type and Percent of Population Living Alone by Gender, Aged 65 Years and Over, San Diego County, 2009



Source: U.S. Census Bureau, American Community Survey, 2009; Accessed online at www.census.gov/acs/www/Products/, 8/2012.

Fall Prevention Task Force

The mission of the San Diego Fall Prevention Task Force is to reduce falls and their devastating consequences in San Diego County.

The Task Force is comprised of members involved in senior, health, and other community organizations concerned with reducing the number of falls among seniors in San Diego County.

A comprehensive approach to fall prevention is multi-faceted and includes:

- Strength and Balance Training
- Medication Management
- Home Safety Modification
- Chronic Disease Management
- Physical Therapy
- Correct Use of Assistive Devices
- Education and Awareness



Some services supported through Aging & Independence Services and the Fall Prevention Task Force include:

- Exercise, balance, and strength classes for seniors.
- Home repair programs that will install safety features in the home.
- Educational videos and public service announcements on fall prevention.
- A toolkit for San Diego clinicians and service providers with information on recognizing patients at risk of falling and resources to provide to elder patients.

**Fall prevention information and resources
for the public and providers are available at:
www.SanDiegoFallPrevention.org**

Data Guide

NUMBERS, RATES, PERCENTS:

A number is a count of how many times an event occurred, and answers the question of “how many.” It describes the overall size, or magnitude of the problem. However, a number cannot be used to directly compare groups or time periods because the size of the populations may be different. When it is necessary to compare across different populations (based on geography, age, sex, race/ethnicity) or time periods, a rate is used.

Rates are a measure of risk. They are used to compare groups of unequal size in order to reveal disparities. Rates are numbers that have been converted to proportions with a common population, and are calculated by dividing the number of events by the total population represented, then multiplying by a constant. For example, to calculate the annual rate of Emergency Department (ED) discharges among San Diego County residents, aged 65 years and over, the following equation would be used:

$$\frac{\text{2010 ED Discharge Patients, Aged 65 and Over}}{\text{2010 S.D. County Population, Aged 65 and Over}} \times 100,000 = \text{Rate per 100,000}$$

The interpretation of the rate calculated is: “In 2010, for every 100,000 people aged 65 and over in the population, X number were discharged from the ED,” or “the rate of ED discharge was X per 100,000 population in 2010.” Rates used in this report are based on incidence and were calculated per 100,000 population.

Using a percent is an easy way to see how a health problem is spread across a population. Percent represents the number of cases out of 100, and is used to describe the proportion within a whole. A percent does not tell how many and does not control for population size, so cannot be compared to different populations over time.

COMPARING DATA:

Caution must be used when exploring data from multiple sources; comparisons may not be appropriate. Attention to accompanying information is important in order to note differences including, but not limited to:

- Rate Constant (i.e., per 100,000 or 1,000)
- Data Sources
- Diagnosis/Case Definitions

Data Sources

CALIFORNIA HEALTH INTERVIEW SURVEY (CHIS) DATA

The California Health Interview Survey (CHIS) provides health and health care access information based on surveys conducted by the UCLA Center for Health Policy Research. The surveys have been conducted every two years, starting in 2001. *The only year that the survey included fall related questions was 2007.* That year, CHIS surveyed 53,611 households throughout California and 5,235 households in San Diego County.

EMERGENCY DEPARTMENT DISCHARGE DATA

EMS receives records for anyone who is discharged from the ED, whether they are transported by an ambulance, are driven by a family member, or walk in. The information reported includes demographics, initial diagnosis, up to 24 other diagnoses, any external cause of injury, mechanism of injury, and outcome.

If a patient is admitted to the hospital from the ED, their information is included in the Patient Discharge Database, not the ED Database. The Patient Discharge Data contains much of the same information as the ED databases.

EPIDEMIOLOGY AND PREVENTION FOR INJURY CONTROL (EPICENTER) DATA

The Epidemiology and Prevention for Injury Control (EPICenter) website provides statewide information on hospitalizations and fatalities, which can be narrowed down by county, injury type, and other demographics.

MEDICAL EXAMINER DATA

An Investigative Summary and Autopsy record is sent to EMS for every person who dies in San Diego County from a traumatic injury. The Medical Examiner (ME) Records includes injury event information and patient demographics.

PREHOSPITAL DATA

When someone places a 9-1-1 call, either a paramedic or emergency medical technician (EMT) responds. For every patient seen by either of these prehospital providers, EMS receives a prehospital patient record. The information collected includes demographics, chief complaint, patient status, injury event information, contributing factors, times, and outcomes.

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Currently, the data include only those calls in which a paramedic or EMT made contact with a Mobile Intensive Care Nurse (MICN) at a base hospital. It is possible that a patient will refuse to be transported, so there will be no record of their injury in any of the other medical encounter data sources.

SAN DIEGO ASSOCIATION OF GOVERNMENTS DATA

The San Diego Association of Governments (SANDAG) provides population estimates for the County of San Diego which are used for calculating rates throughout this report.

TRAUMA REGISTRY DATA

If a patient is sent to a Trauma Center, EMS receives a Trauma Registry if one or more of the following criteria are met:

- Length of hospitalization of 24 hours or more.
- Death due to traumatic injuries.
- Transfer to/from another acute care hospital.

Trauma patient records are also contained in the prehospital, emergency department discharge, and hospital discharge databases.

References

1. County of San Diego, Health and Human Services Agency, Community Health Statistics Unit. *San Diego County Community Profiles*. January 2012. www.SDHealthStatistics.com. (Accessed August 23, 2012).
2. Centers for Disease Control and Prevention. Injury Prevention & Control: Home and Recreational Safety. *Falls—Older Adults: An Overview*. <http://www.cdc.gov/HomeandRecreationalSafety/Falls/adultfalls.html>. (Accessed August 23, 2012).
3. National Institute of Aging. NIH Senior Health. *Falls and Older Adults*. <http://nihseniorhealth.gov/falls/toc.html>. (Accessed August 23, 2012).
4. Centers for Disease Control and Prevention. Injury Prevention & Control: Home and Recreational Safety. *Hip Fractures Among Older Adults*. <http://www.cdc.gov/HomeandRecreationalSafety/Falls/adulthipfx.html>. (Accessed August 23, 2012).
5. UCLA Center for Health Policy Research. California Health Interview Survey, 2005-2009. "AskCHIS." <http://www.chis.ucla.edu/main/>. (Accessed August 23, 2012).
6. UCLA Health Policy Research Brief. *Older Californians At Risk for Avoidable Falls*. http://www.healthpolicy.ucla.edu/pubs/files/Avoidable_Falls_PB_0510.pdf. (Accessed August 23, 2012).
7. The Nation's Health. *Safety Tips Can Help You Avoid A Fall*. July 2010. www.thenationshealth.org. (Accessed August 23, 2012).

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Dianne Jacob
District Two



Pam Slater-Price
District Three



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District Four



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